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Additamenta ad floram iraqiensem II

by

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1. **Secale ciliatoglume** (Boiss.) Grossh. in *Bull. appl. Bot.* **13**: 472. 1924 = *S. montanum* Guss. γ *ciliatoglume* Boiss. *Fl. or.* **5**: 670. 1884. = *S. montanum* Guss. in Zohary *Fl. Iraq.*: 28. 1950.

In his study on the wild rye in Transcaucasia GROSSHEIM (1924) establishes, that *Secale montanum* Guss. *(s. lat.)* falls into several geographical varieties, which are quite distinct from each other morphologically. The *Secale montanum,* first described by GUSSONE in Sicily, occurs in the Western part of the Mediterranean region " in glareosis sylvaticis et dumosis montosis Pizzuta, Busambra, Etna, Madonie, Mistretta ". We may call this plant *Secale montanum* Guss., *s. str.,* whilst *Secale dalmaticum* Vis. occurs in Dalmatia and Herzegovina. This and perhaps another closely related Western form (cf. GROSSHEIM, *l.c.*), occurring in the Balcan Peninsula, are morphologically characterized by two features: the difference in the length of the empty glume and the lower flowering glume being 3 mm. and the awn being of equal length to the lower flowering glume.

Secale anatolicum described by BOISSIER in 1884 as a variety β of the *Secale montanum* grows in Asia Minor, but in the *Diagnoses,* ser. 1, **5**: 76. 1884, the plant is described as a species, *Secale anatolicum* Boiss. The Herbier Boissier contains specimens of *Secale anatolicum* from the Olymp near Brussa (Ulu Dagh) collected in 1874, from Baibut, (collected by *Bourgeau),* from Avroman (collected by *Haussknecht),* from Lycia, (collected by *Bourgeau),* from the Taurus in Cataonia (collected by *Haussknecht*), and from the Argaeaus (collected by *Balansa).*

Secale ciliatoglume (Boiss.) Grossh. grows in Eastern Asia Minor, in Kurdistan. The latter seems to be the plant occurring in the mountains of Iraq, but NABELEK (1929) found " *Secale montanum* Guss. var. *anatolicum* Boiss." in the district of Amadia, that is to

say not far from the Turkish borders of to-day. Nevertheless the plant I collected near Rawanduz in the Erbil Liwa, seems to belong to *Secale ciliatoglume* (Boiss.) Grossh. Moreover, ZOHARY quotes from Sulaimaniya, that is to say yet further East, the *Secale montanum* Guss., making no distinction between *Secale anatolicum* and *Secale ciliatoglume*. In the Herbier Boissier I saw specimens from the *Secale ciliatoglume* collected in the mountains of Zagros in Kurdistan, in " Persia austro-occidentali " by *Haussknecht* and on the Pir Omar Gudrun, by *Haussknecht*.

These Eastern forms are characterized by the following features : the difference in the length of the empty glume and the lower flowering glume is 1 mm., the length of the awn is variable : it is generally twice as long as the glume, but may also be of equal length.

2. **Dactylis glomerata** L. *Sp. Pl.* : 105. 1753.

The plant is confined to the oak belt in the mountains of the North, where it is quoted by NABELEK near Rawanduz and where I also collected it. In the western part of the region of the Kurdish mountains NABELEK quotes the Mediterranean *Dactylis glomerata* L. var. *hispanica* Boiss. between Zacho and Amadia also near Siirt in Turkey. I found it near Tatvan on the shores of Lake Van in Turkey. (See REGEL 1957.) The occurrence of the nemoral and boreal *Dactylis glomerata* in Iraq is thus an interesting fact.

3. **Cyperus longus** L. *Sp. Pl.* : 45. 1753.

In water in a canal, Abu Khasib, near Basrah, March 1955. Collected by Abd-El-Latif-Selim. Not quoted by ZOHARY fro Lower Mesopotamia, but only for the North of Iraq.

4. **Cyperus pygmaeus** Rottb. *Descr.* : 20, tab. 14, fig. 4. 1773.

On the sandy shore of the Tigris near Baghdad *(Regel, Fl. exsicc. iraq. 100)*. Quoted by ZOHARY for Lower Mesopotamia, an east-mediterranean-irano-turanian-tropical element. See also the stations quoted by BLAKELOCK.

5. **Iris sisyrinchium** L. *Sp. Pl.* : 59. 1753.

In the desert between Kerbelah and Shithata, abundant on moist soils. A mediterranean-irano-turanian element, quoted by ZOHARY in the region of Kerkuk, Dohuk, in Lower Mesopotamia, in the Western and Southern deserts and in the Jezirah. Quoted by NABELEK in the adjecent parts of Iran " Persia australis, Persia austro-occidentalis (Susiana) and Kurdistania Persica ".

6. **Lemna minor** L. *Sp. Pl.* : 1376. 1753.

In an irrigation canal in the desert near Sheikh Omar, Baghdad. Found also abundant in the lake district in the South, e.g. near Naziriya. It is found in running fresh water only, never in salt water. Quoted too by HANDEL-MAZZETTI for Beled near Baghdad and by ZOHARY for Lower Mesopotamia.

7. **Populus euphratica** Oliv. *Voy. Emp. ottom.* **3** : 449. 1807.

Regel, Fl. exsicc. iraq. 44.

The specimens in the *Flora exsiccata* were collected on the banks of the river in Khanakin, from where it was not as yet quoted. The tree formerly formed forests; since destroyed by man. An irano-turanian element, occurring in Southern Caucasia, Western Iran, Eastern Anatolia and Central Asia. ZOHARY quotes the tree for Lower Mesopotamia, the Jezirah region and for Kurdistan. Further, according to HANDEL-MAZZETTI, the tree occurs on the Euphrates from above Der Sor to Babylon and on the banks of the Tigris near Mosul and near Baghdad, where it forms forests. BLAKELOCK quoted the plant moreover for Amadia at an altitude of 750 m., and on the Diyala river near Rustam.

8. **Populus nigra** L. *Sp. Pl.* : 1034. 1753.

In gardens near fountains in Shaklava, Erbil Liwa. The tree is often planted near villages in the Kurdish mountains, but is not quoted by ZOHARY nor by BLAKELOCK.

9. **Ceratophyllum demersum** L. *Sp. Pl.* : 1409. 1753.

Regel, Fl. exsicc. iraq. 103.

Found in great quantities in canals in the palm forests near Marghil-Basrah. The plant is quoted by ZOHARY for Lower Mesopotamia and by HANDEL-MAZZETTI for the " Canal of Khora " near Basrah. BLAKELOCK quotes it for the marshes in the region of Amara.

10. **Spergularia diandra** (Guss.) Heldr. & Sart.

Growing in the salt desert between Naziriya and Ur, very common on moist soils. A sub-mediterreanean-irano-sindian element penetrating into the saharo-sindian and the sud-decanian region. Quoted by ZOHARY for Lower Mespotamia, the Western Desert and Jezirah, by NABELEK and BLAKELOCK for Babylon and the region of Amara and Baghdad and from the Euphrates to Divaniya and Naziriya.

11. **Amygdalus lycioides** Spach. in *Ann. Soc. Nat.*, ser. 2, **19** : 120. 1873.

Regel, Fl. exsicc. iraq. 106.

The tree was found among shrubs with oaks by the wayside between the pass on the road from Mosul and the town of Zacho, Mosul Liwa. The plants I collected had no mature leaves as yet, only flowers. They were less spinescent, but the flowers had a typical campanulate-ventricose, calyx-tube. ZOHARY quotes the plant for the regions of Sulaimaniye only. Thus the station near Zacho is a new one.

12. **Alhagi maurorum** DC. *Prodr.* **2** : 352. 1825.

Regel, Fl. exsicc. iraq. 105.

According to ZOHARY, the plant is very common on desert land in Iraq, in the region of Amadia, in Lower Mesopotamia and Jezirah; it occurs near Mosul (HANDEL-MAZZETTI) and near Baghdad (BLAKELOCK). I collected the plant on stony places in the mountains of Sinjar. *Alhagi maurorum* grows abundantly, sometimes forming pure communities on the sandy banks of the rivers and on irrigated fields in the desert.

13. **Coronilla varia** L. *Sp. Pl.* : 1048. 1753.

Regel, Fl. exsicc. iraq. 16.

I collected the plant near Haji Omran on the iraq-iranian border at an altitude of about 2000 m., growing abundantly by the wayside. ZOHARY does not mention it for Iraq, but according to BLAKELOCK it grows on the Algird Dagh at about 1800 m. altitude, that is to say not far from Haji Omran, and then in the mountains near Penjwin.

14. **Zygophyllum typicum** (Popov) C. Regel, *pro spec.* = *Z. fabago* L. subsp. *typicum* Popov in *Fl. URSS* **14** : 160. 1949 = *Z. fabago* L. var. *typicum* Popov in *Bull. appl. Bot.* 248 : 1927; *Z. fabago* L. sensu Boiss. *Fl. or.* 1 : 913. 1867; Zohary, *Fl. Iraq.* : 98. 1950; Blakelock, *Rustam Herb.* : 408. 1943.

Regel, Fl. exsicc. iraq. 11.

Zygophyllum typicum is a plant with a wide distribution extending from the mediterranean region : Spain, Northern Africa, the countries of the Balcan Peninsula, Asia Minor, Iraq and Syria up to the Eastern shores of the Caspian Sea (see the map in POPOV 1927). To the East the plant is replaced by the *Zygophyllum orientale* Borissov (= *Z. fabago* L. subsp. *orientale* Boriss. in *Fl. URSS* **17** : 160. 1949) which occurs in Central Asia and was erroneously confused by POPOV (1927) under the name var. *brachypterum* Popov with *Zygophyllum brachypterum* Kar. & Kir., another species, growing in the regions of Saissan and the Altai. Moreover *Zygophyllum fabago* L. subsp. *dolichocarpum* Popov grows in Eastern Turkestan, the basin of the river Ili and near Kuldsha. Here also occur several other species of *Zygophyllum*,

belonging to the subgenus *Fabago* Adans. *Fam. Pl.* **2** : 607. 1763, sect. *Fabago* Engl. *Gen. Plant.* : 1164. 1836-1840; Engler in Engler & Prantl, *Nat. Pflanzenfam.* **19a.** : 161. 1931. There is no doubt, that the plant, described by LINNÉ from Syria belongs to the subsp. *typica* Popov, which, on account of its area of distribution has to be considered as a species, *Zygophyllum typicum* (Popov) C. Regel. See also REGEL (1957).

It is, according to ZOHARY, a sub-irano-turanian element, penetrating into the mediterranean region and occurring as a weed in central Europe,e.g. in Poland. The main distribution of the plant lies within the desert zone. In Iraq *Zygophyllum typicum* grows everywhere as a weed especially in vegetable gardens, in orchards, waysides, in the palm groves, etc., avoiding the dryest soils.

The specimens of the *Fl. exsicc. iraq.* were collected in Baghdad, and the plant is quoted by ZOHARY for the region of Lower Mesopotamia and Jezirah and by BLAKELOCK on " waste land by the river bank " in Rustam (not far from Baghdad), but the plant occurs in many other places too.

BOISSIER (*Fl. or.* **1** : 913. 1867) describes near Mosul, Assyria, a variety β *brachycarpum* with *capsula ovato-oblonga 6 lineas tantum longa, seminis tubercula contigua,* that is to say with characters similar to the *Zygophyllum orientale* Boriss., which was called by Popov *Zygophyllum brachypterum* Popov = *Z. brachypterum* Kar. & Kir. But we have not enough material to decide whether this variety belongs to the *Zygophyllum orientale* Boriss. or to another form from central Asia. I saw this specimen in the Herbier Boissier; it is really some Eastern form. A key is included below for the identification of the species belonging to the *Zygophyllum fabago, s. lato.*

1. Capsula oblongo-cylindrica 2
— Capsula oblongo-ovata, 10-15 mm. longa **Zygophyllum orientale** Boriss.

2. Capsula valde longa, flores magnae, planta valde magna **Zygophyllum fabago** L. subsp. **dolichocarpum** Popov
— Capsula brevior, deflexa, flores 6-8 mm. longae **Zygophyllum typicum** (Popov) C. Regel

15. **Peganum harmala** L. *Sp. Pl.* : 638. 1753.

Regel, Fl. exsicc. iraq. 10.

The plants in the *Flora exsiccata* were collected in desert places in salty soil near Baghdad. The plant is common in the desert region, but is absent in the mountains of the North, where the soil contains no salt. According to ZOHARY it is a sub-saharo-sindian-irano-turanian element. ZOHARY quotes the plant for Lower Mesopotamia

and for the Southern desert, but I saw it not far from Tel Afar, in the region of Mosul on salty desert soil.

16. **Euphorbia peplus** L. *Sp. Pl.* : 658. 1753.

I collected the plant in vegetable gardens in and around Baghdad where it is one of the most common weeds of the area though not mentioned at all by ZOHARY. But BLAKELOCK mentions the plant for the region of Baghdad and the Herbier Delessert in Geneva contains specimens from the Rustam Farm, Karradah, near Baghdad. Moreover there are specimens collected by *Rechinger* in Kerman, Iran in " Palmeta *(Phoenix dactylifera)* ".

17. **Malva parviflora** L. *Sp. Pl.* : 960. 1753.

Regel, Fl. exsicc. iraq. 10.

I collected the plant as a wayside weed in Salahuddin, Erbil Liwa, at an altitude of 1000 m. ZOHARY quotes this plant, belonging to the mediterranean-irano-turanian element, for the regions of Kerkuk, for Lower Mesopotamia, for the Southern desert and for Jezirah. Salahuddin is a new station for this weed.

18. **Hypericum scabrum** L. *Amoen.* ed. 2, **4** : 287. 1788.

Regel, Fl. exsicc. iraq. 114.

The plants I collected in the oak belt of mount Handren have very scabrous stems. It was collected by *Nabelek* in the regions of Amadia and of Rawanduz, and quoted by BLAKELOCK for various places in the North of the country.

19. **Frankenia pulverulenta** L. *Sp. Pl.* : 474. 1753.

Regel, Fl. exsicc. iraq. 109.

The specimens were from the salt desert near Ur in the Liwa of Naziriya, where, at times, it forms small and dense lawns. A mediterranean-irano-turanian element, quoted by ZOHARY for Lower Mesopotamia.

20. **Elaeagnus angustifolius** L. var. **virescens** Sosn. in Grossh. *Opred. Kawk.* : 187. 1949.

I collected this plant between Amadia and Sirsing in the Liwa of Mosul among wayside shrubs. It is not quoted by ZOHARY for Iraq and it may not be indigenous for the country. The plants I collected have broad leaves which are green on the upper side and with white hairs beneath; it has long thorns.

21. **Anagallis coerulea** (Gouan) Schreb. *Spic. Fl. Lips.* : 5. 1771.

Regel, Fl. exsicc. iraq. 102.

I found this plant growing as a weed in a vegetable garden in Baghdad, Amadia. A boreal-tropical element, occurring according to ZOHARY in the regions of Kerkuk, Dohuk, in the Southern Desert, in the Western Desert and in Jezirah but not in Lower Mesopotamia, whereas, according to BLAKELOCK, it is very common in Baghdad and its surroundings.

22. **Statice spicata** Willd. *Sp. fl.* **1** : 1532. 1798.

Regel, Fl. exsicc. iraq. 55.

The specimens in the *Flora exsiccata* were collected in typical desert land near Fao, Basrah Liwa. It is an irano-turanian element occuring, according to ZOHARY, in Lower Mesopotamia and in Jezirah. Moreover I saw the plant in desert places near Baghdad, from whence it is also quoted by BLAKELOCK.

23. **Gentiana olivieri** Griseb. *Gen. et Sp. Gent.* : 278. 1839.

Regel, Fl. exsicc. iraq. 25.

The specimens of the *Flora exsiccata* were collected in an oak forest in Salahuddin, Erbil Liwa, at an altitude of about 1000 m. It is a typical plant of the oak belt in the mountains of the North where it grows in many places and is mentioned by BLAKELOCK and by ZOHARY for various regions of northern Iraq.

24. **Cressa cretica** L. *Sp. Pl.* 325 : 1753.

Regel, Fl. exsicc. iraq. 27.

The specimens in the *Flora exsiccata* were collected in Baghdad, on waste places by the wayside. It is, according to ZOHARY, a mediterreanean-irano-turanian element, occurring in the regions of Kerkuk, Lower Mesopotamia and in Jezirah and not mentioned, even by BLAKELOCK, for Baghdad. There the plant is very common and grows as weed on salty soils along suburban street and in gardens.

25 **Echium italicum** L. *Sp. Pl.* : 139. 1753.

Regel, Fl. exsicc. iraq. 58.

The specimens of the *Flora exsiccata* were collected in dry places by the wayside in Haji Omran, Erbil Liwa, at an altitude of about 2000 m., where the plant grows like a weed. It is, according to ZOHARY, a sub-mediterranean-irano-turanian element, quoted by him for the Dohuk region and by BLAKELOCK for the region of Mosul (Shaikhhan, Atrush and Zawita) and on the Arl-Gird Dagh at an altitude of 1200 m. This latter station is not far from Haji Omran.

26. **Onosma nemoricolum** Hausskn. & Bornm. in Bornm. Iter Persico-turcicum a. 1892-93, nº 1609 : *Fedde Repert.* 8 : 541. 1910.

I collected the plant in the same region " Kurdistania (Assyria orientalis); in nemoribus et dumetis regionis subalpinae montis Kuh-i-Sefin supra pagum Shaklawa, 15-1600 m. s.m.". It seems to be an endemic plant, not found so far in other regions.

27. **Lippia nodiflora** (L.) Rich. in Michx. *Fl. Bor. Am.* **2** : 15. 1803.

Regel, Fl. exsicc. iraq. 31.

The specimens in the *Flora exsiccata* were collected on the sandy banks of the Diyala river in Baquba, Diyala Liwa. The plant is very common in the neighbourhood of Baghdad, on lawns, on moist soils in the desert, and on the sandy banks of the Tigris river. Quoted also by BLAKELOCK for Rustam farm and Basrah, and by ZOHARY for Lower Mesopotamia as a mediterranean-irano-turanian-tropical element.

28. **Teucrium chamaedrys** L. subsp. **sinuatum** (Čelak.) Rech. fil. = *T. sinuatum* Čelak. in *Bot. Centralbl.* **14** : 218. 1883.

Regel, Fl. exsicc. iraq. 111.

The specimens collected are suffrutescent with long ascendent stems without stolons and short hairs. They were collected on a meadow in an oak forest in Salahuddin, Erbil Liwa. It is a new plant which has not as yet been found in Iraq, but quoted for the adjacent parts of Turkey, such as Muš, Bitlis and the regions of Siirt. In northern Syria occurs the very similar subsp. *tauricolum* Kotschy, collected in the mountains of Gara in Kurdistan " in rupestribus montis Garad in Kurdistan " from where the type was described.

29. **Teucrium pruinosum** Boiss. *Fl. or.* **4** : 808. 1879.

An irano-turanian element, quoted by ZOHARY for Sinjar and for Jezirah only, where it was collected by *Handel-Mazzetti*. I collected the plant on the slope of the mount Handren near Rawanduz.

30. **Phlomis bruguieri** Desf. in *Mém. Ann. Mus.* ser. 2, **9**, t. 5 : 1824.

Regel, Fl. exsicc. iraq. 32.

The specimens in the *Flora exsiccata* were collected in a semi-desert near Tel-Afar, Mosul Liwa. The plant is very common in the fields and fallows in northern Iraq. According to ZOHARY it is an irano-turanian element, in the regions of Amadia, Rawanduz, Kerkuk, Sulaimaniye, Dohuk and in Jezirah. Other localities are quoted by BLAKELOCK; the station in Tel-Afar is a new one. The plant corresponds to the description given by RECHINGER (1940).

31. **Salvia syriaca** L. *Sp. Pl.* : 36. 1753.

Regel Fl. exsicc. iraq. 95.

The specimens collected for the *Flora exsiccata* were found near Shaklawa, Erbil Liwa in fields. This species is, according to ZOHARY, a sub-irano-turanian element, occurring in Iraq in the Erbil and Dohuk regions and in Jezirah. NABELEK mentions a var. *macrocalycina* Bornm. in the region between Erbil and Rawanduz and BLAKELOCK quotes the plant for the region of Erbil.

32. **Mentha silvestris** L. *Sp. Pl.* ed. 2 : 804. 1764; Zohary *Fl. Iraq.* : 131. 1950 = *Mentha longigolia* Blakelock non (L.) Huds. *Fl. angl.* ed. 1 : 221. 1762.

Regel, Fl. exsicc. iraq. 107.

It is one of the many forms of this plant common throughout Iraq. The plant I collected near the river Diyala at the foot of the Jebel Hamrin belongs to the var. *glabrata* Boiss. (*Fl. or.* **4** : 544. 1879) with nearly glabrous leaves and stems. Other varieties occur in Iraq, e.g. *Mentha longifolia* var. *incana* (Willd.) Dinsm. and the *Mentha longifolia* var. *mollissima* (Borckh.) Fraser in *Bot. Soc. Exch. Cl.* **8** : 218. 1927, quoted by BLAKELOCK (in *Kew Bull.* 1949 : 541. 1949).

33. **Datura metel** L. *Sp. Pl.* : 179. 1753.

The plant is quoted by BLAKELOCK in Basrah as cultivated in gardens, and not quoted at all by ZOHARY. But I found it as a weed in Baghdad and its surroundings, at Karradah, Adamiya and Ktesiphon. The plant is in any case not indigenous and probably a garden escape. I did not find in Iraq the *Datura stramonium* L., quoted by BLAKELOCK in the region of Mosul.

34. **Cephalaria syriaca** (L.) Schrad. *Cat. sem. hort. Göttingen* 1814.

Regel, Fl. exsicc. iraq. 78.

The specimens in the *Flora exsiccata* were collected on fallow land near Kerkuk in the North of Iraq. The plant is very common in fields and fallows and quoted by Zohary for the regions of Kerkuk, Sulaimaniye, for Lower Mesopotamia and for Jezirah. Other stations in the North are quoted by BLAKELOCK. Only one form of *Cephalaria syriaca* (L.) Shrad. has been cited from Iraq. Nevertheless this species is a very polymorphic one, and Bobrov in *Bull. appl. Botany* **21** : 1. 1928-29, describes several forms occurring in the Eastern part of the mediterranean region and in the Near and Middle East : *Cephalaria* (L.) Schrad. *s. str.*, in Syria and Meopotamia, the ssp. *transcaucasica* Bobr. in the Caucasus, the ssp. *turanica* Bobr. in central Asia, the ssp. *phoeniciaca* Bobr. in Syria, Egypt and Algeria and

finally there is the *Cephalaria syriaca* (L.) Schrad., *s. ampl.*, comprising many forms not yet studied, occurring in Asia Minor, Turkish Armenia, Kurdistan (Erbil in Iraq), Spain, France and Macedonia. As we see, the plants of Iraq belong mostly to the *Cephalaria syriaca, s. str.*, and only in one place there was found the *Cephalaria syriaca* (L.) Schrad., *s. ampl.*

35. **Cymbolaena longifolia** (Boiss. & Reut.) Smolj. in *Not. syst. Herb. Inst. bot. Komarovii Acad. Sc. URSS* **17** : 452. 1955 = *Micropus longifolius* Boiss. & Reuter ex Boiss. *Fl. or.* **3** : 241. 1875; Zohary *Fl. Iraq.* : 146. 1950; Blakelock in *Kew Bull.* 1949 : 59. 1949.

Regel, Fl. exsicc. iraq. 110.

Recently Smoljaninova described the monotypical genus *Cymbolaena*; its only species, *C. longifolia*, formerly belonged to the genus *Micropus*. The author says, that the differences between this species and the other species of the genus *Micropus* are so great, that it has to be divided into three genera, the genus *Bombycilaena* Smolj., comprising two species of the former genus *Micropus, B. erecta* (L.) Smolj. and *B. bombycina* (Lag.) Smolj., the genus *Cymbolaena* Smolj. with only one species, the *C. longifolia* (Boiss. & Reuter) Smolj.) and the genus *Micropus* L. with also one species, the *M. supinus* L.

The *C. longifolia* occurs in Iraq, according to Zohary near Kerkuk, in Lower Mesopotamia, in Jezirah and in the region of Amadia. It is an irano-turanian element. Blakelock quotes the plant in addition for Tel Kaif near Mosul and Balad Sinjar (Hinaidi and Tuz) in the region of Erbil and Baghdad. The plants of the *Flora exsiccata* were collected in the desert near Ur in the Naziriya Liwa and I saw it all in desert land near Baghdad. According to Smoljaninova the plant occurs in southern Transcaucasia, in Asia Media, Syria, Iraq, Asia Minor, Iran, Afganistan and Baludshistan. Reference to the plant as an irano-turanian element is thus fully justified.

Key for the identification of the genera of the former genus Micropus

1. Involucri squamae interiores coriaceae, dorso spinescentes, foliis **Micropus**
— Involucri squamae interiores inermes foliis alternis 2
2. Involucri squamae flores radii involventibus, subuniseriales, flores disci 5, raro 3, quinquedentati . . . . . **Bombycilaena**
— Involucri squamae flores radii involventibus triseriales, flores disci pauci, in numero 3, quadridentati . . . . . **Cymbolaena.**

36. **Centaurea solstitialis** L. *Sp. Pl.* : 917. 1753.

A weed, very common in mediterranean countries, but rather rare in Iraq. Zohary quotes the plant as a mediterranean-irano-turanian element, but according to me it would be a mediterranean element,

which penetrates into the desert zone and mostly into its northern part, the Half Desert. ZOHARY quotes it in the regions of Amadia, Kerkuk and in Jezirah; I found the plant near Tel-Afar in the Mosul Liwa and in the palm groves of Baghdad, where the local climatic conditions are more suitable for a mediterranean element. BLAKELOCK quotes the plant for the Al-Gird Dagh in the North at an altitude of 1800 m., which confirms my opinion, that *C. solstitialis* is rather a mediterranean element.

37. **Centaurea iberica** Trev. in Spreng. *Syst.* **3** : 406.

I collected the plant as a wayside weed and on waste land under the palms in Baghdad, where it replaces the *C. calcitrapa* lacking in Iraq. Accordingly to ZOHARY it is a mediterranean irano-turanian element, quoted by him for the regions of Amadia, Rawanduz, Kerkuk and in Lower Mesopotamia, but in my opinion, it is more likely to be a mediterranean plant which penetrates into the Under Zone of the Half Desert and occurs on suitable places (palm forests) in the Half Zone of the Pure Desert.

38. **Scolymus maculatus** L. *Sp. Pl.* : 1143. 1753.

I collected the plant as a weed in Salman Pak near Baghdad. It is a submediterranean element quoted by ZOHARY for the regions of the North, Amadia and Kerkuk and not quoted by him for the region of Baghdad where it seems to occur quite often and replaces in Iraq the pure mediterranean *S. hispanicus*.

39. **Sonchus oleaceus** L. *Sp. Pl.* : 1116. 1753.

I collected the plant as a weed in Abu Chraib near Baghdad. It is quoted by ZOHARY for Lower Mesopotamia and by BLAKELOCK for the Rustam Farm near Baghdad and for Deltava in the Diyala Liwa. It is one of the most common weeds in the whole country, rarely quoted for the North. It occurs in vegetable gardens, orchards and in the palm groves of Baghdad, where it finds suitable conditions.

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